

Fireworks & Special Effects

Fireworks both indoor and outdoor are fun to watch and dangerous to deal with. The State Fire Marshals' Office regulates the sale, storage of Class "C" fireworks, and licences the pyrotechnic operators which conduct indoor and outdoor displays. The State also permits the local municipalities to regulate the permits for the displays and the sale of Class "C" fireworks. The State also requires the municipalities to issue permits, and regulate the displays in their jurisdictions. The following information is specific for the display of ariel shows (outdoor), and close proximate audience shows (indoor).

West Valley City has adopted through ordinance Chapter 16-6-101 which is the 2000 Edition of the International Fire Code. Within that text is the basic guide for the displays of fireworks.

If an indoor, or outdoor display is to be shown the following information must be supplied for a permit. This application shall be sent to the Division of Fire Prevention 15 working days before the discharge of any show. An inspection of the area which the pyrotechnics will be launched, shot, ignited, shown and displayed will be completed before the permit will be issued. A demonstration of the devices maybe required by the fire official. The following must accompany the permit.

- 1 Proof of insurance.**
- 2 List of effects to include the quantity, size, manufacture and name.**
- 3 The location of the effects (location for setup of; mortars, gerbs, fountains, air-burst, flame effects, concussion effects, stage, gridiron, stand(s) mobile device, trailer, water craft).**
- 4 Date and time of setup.**
- 5 Day box(s) location.**
- 6 Name and Utah State pyrotechnic operator licence number.**
- 7 Disposal instructions from the fireworks manufacture.**
- 8 Location of fire watch, and firing area.** Note the firing area must be visually monitored by the pyrotechnic operator or his assistant who has direct communications with the pyrotechnic operator.

Outdoor displays will require a minimum of one brush truck and a crew of two stand-by firefighters and a member of the Division of Fire Prevention. There will be no hand firing of any pyrotechnics, or special effects. Mortars plugs shall be secured, and the mortars shall not be deformed, bent, or split. Shells shall fit properly into mortars. Shells which have the appearance of being damaged, once wet, or repaired will not be used. Shells

Fees:

Permit Fee	\$300.00 each occurrence
Brush Truck*	\$100.00 per hour
Firefighter*	\$60.00 per hour

*Will be required to be on site one hour before and after the show. Fees will be assessed per hour.



Application for Permit Pyrotechnic and Special Effects

This permit is non-transferable. Any violation of this permit will require the confiscation of all devices used in the display for prosecution of the offence. Falsification of this document and related documents is an offence, and will be prosecuted.

Name of Event: _____ **Location:** _____

Date(s) of Event: _____ **Indoor** ☐ **Outdoor** ☐

Name of applicant: _____

Signature of applicant: _____

Utah State Pyrotechnic Operators Name: _____

Licence Number: _____

Date of application: _____ **Fee:** \$ 300.00 each **Cash** ☐ **Check** ☐

PROVIDE THE FOLLOWING DOCUMENTATION AND INFORMATION:

***Insurance:** ☐ **Demonstration:** ☐ **List of Effects:** ☐ **Storage Magazines:** ☐

Setup: Date ____/____/____ **Time** _____ **AM** ☐ **PM** ☐

* Insurance shall name the City of West Valley as additional insured.

Comments:

Demonstration is required for the performance the day of the show(s).
Contact this office for time.

9. Fire watch shall be provided during the displays.
10. All displays shall be electrically fired.
11. Smoking, open flame, and spark producing materials are prohibited.
12. Onlookers shall be a safe distance away from pyrotechnic, and special effect materials during discharged.
13. Housekeeping
14. Drapes, drops, curtains and hangings shall be flame retardant. Certifications shall be provided, unless the material has a sewn on label by an approved testing laboratory.

International Fire Code

2000 Edition

Section 3308 Fireworks Display

3308.1 General. The display of fireworks, including proximate audience displays and pyrotechnic special effects in motion picture, television, theatrical, and group entertainment productions, shall comply with this chapter and NFPA 1123 or NFPA 1126.

3308.2 Permit application. Prior to issuing permits for fireworks display, plans for the display, inspections of the display site, and demonstrations of the display operations shall be approved.

3308.2.1 Outdoor displays. In addition to the requirements of section 403, permit applications for outdoor fireworks display using Division 1.3G fireworks shall include a diagram of the location at which the display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

3308.2.2 Proximate audience displays. Where the separation distances required by Section 3308 and NFPA 1123 are unavailable or cannot be secured, only proximate audience displays conducted in accordance with NFPA 1126 shall be permitted. Applications for proximate audience displays shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the code official.

3308.3 Approved displays. Approved displays shall include only the approved Division 1.3G, Division 1.4G, and Division 1.4S fireworks, shall be handled by an approved competent operator, and the fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

3308.4 Clearance. Spectators, spectator parking areas, fire and emergency response personnel and their vehicles, and dwellings, buildings, or structures shall not be located within the display site.

Exceptions:

1. This provision shall not apply to pyrotechnic special effects and displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied dwellings, buildings, and structures of type I or II construction with the permission of the building owner and the code official.

3308.5 Storage of fireworks at display site. The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 11223 or NFPA 1126.

3308.5.1 Supervision and weather protection. Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.

3308.5.2 Weather protection. Fireworks shall be kept dry after delivery to the display site.

3308.5.3 Inspection. Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses, or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.

Exception: Minor repairs to fuses shall be permitted. For electrically ignited displays, attachment of electric matches and similar task shall be allowed.

3308.5.4 Sorting and separation. After delivery to the display site and prior to the display, all shells shall be separated according to size and their designation as salutes.

Exception: For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.

3308.5.5 Ready boxes. Display fireworks (division 1.3G) that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes, or for the use of ready boxes.

Exception: For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes, or for the use of ready boxes.

3306.6 Installation of mortars. Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors, and damaged plugs. Defective mortars shall not be used.

3308.7 Handling. Aerial shells shall be carried to mortars by the shell body. For purpose of loading mortars aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

3308.8. Display supervision. Whenever in the opinion of the code official or the operator, a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

3308.9 Post-display inspection. After the display, the firing crew shall conduct and inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.

338.10 Disposal. Any shells found during the inspection required in Section 3308.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of

the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 3304.10.

3308.11 Retail display and sale. Fireworks displayed for retail sale shall not be made readily accessible to the public. A minimum of one pressurized-water portable fire extinguisher complying with Section 906 shall be located not more than 15 feet and not less than 10 feet from the hazard. “No Smoking signs Complying with Section 310 shall be conspicuously posted in areas where fireworks are stored or displayed for retail sale.

NFPA 1123

Excerpts from the Code for Fireworks Display

Table 3.1.3 Distances for Outdoor Fireworks Display Sites Minimum Separation Distance from Mortars to Spectators

Mortar size		Minimum Secured Diameter of Site		Vertical Mortars		Angle 1/3
in.	mm	ft.	m	ft.	m	ft.
<3	<76	280	85	140	43	95
3	76	420	128	210	64	140
4	102	560	171	280	85	190
5	127	700	213	350	107	230
6	152	840	256	420	128	280
7	178	980	299	490	149	320
8	203	1120	341	560	171	370
10	254	1400	427	700	213	460
12	305	1680	512	840	256	560

3.1.3.3 Distances from health care and detention and correctional facilities shall be at least twice the distances specified in table 3.1.3.

Exception: Where approved by the authority having jurisdiction and the health care or detention and correctional facility.

3.1.3.4 Distance between the mortar line and bulk storage areas of materials that have a flammability, explosive, or toxic hazard shall be twice that required by table 3.1.3.

Exception: the fuel tanks on vehicles or other motorized equipment located in the display site shall not be considered bulk storage.

3.2.1 The area selected for the discharge of aerial shells shall be located so that the trajectory of the shells shall not come within 25 ft. (7.7m) of any overhead objects.

3.2.2 Ground display pieces shall be located a minimum distance of 75 ft (23m) from spectator viewing areas and parking areas.

Exception No. 1: For ground pieces with a greater hazard potential (such as large wheels with powerful drivers, and items employing large salutes), the minimum separation distance shall be increased to 125 ft (38 m).

Exception No. 2: All roman candles and mutishot devices shall have the separation distance of 125 ft (38 m) or 70 ft/in. (22 m/25mm) of the tube diameter, whichever is greater.

3.2.3.1.1 The angled mortars shall be permitted to be placed up to 1/3 of the distance from the center of the display site (see Table 3.2.3) toward the main spectator viewing area.

5.1 The sponsor of the display shall make provisions for adequate fire protection for the display.

5.1.1 The sponsor shall consult with the authority having jurisdiction and the operator to determine the level of fire protection required.

5.1.2 Monitors whose sole duty shall be the enforcement of crowd control shall be located around the display area and at other locations as determined by the sponsor. The authority having jurisdiction and the operator shall approve the provisions for crowd control.

5.1.2.2 During the period before the display, where pyrotechnic materials are present, unescorted public access to the site shall not be permitted.

5.2.3 When being loaded into the mortars, shells shall be held by their fuses or lowering cords is provided and shall be lowered carefully into the mortar. At no time shall any part of the body of the loader be placed over the mouth of the mortar.

5.2.4 The loader shall be certain to the degree practicable that the shell is properly seated in the bottom of the mortar.

5.2.5 Shells shall not, under any circumstances, be forced into a mortar too small to accommodate them. Shells that do not fit properly into the mortars shall not be fired and shall vacate the mortar area.

NFPA 1126 Excerpts from the Standard for the Use of Pyrotechnics before a Proximate Audience

6.1.3 To prevent unauthorized personnel from gaining access to the pyrotechnics, the venue manager for the site shall provide a separate, lockable room or facility for the prevention of pyrotechnic materials and devices that has been approved by the authority having jurisdiction and that is acceptable to the pyrotechnic operator.

6.2.1 All pyrotechnic devices shall be mounted in a secure manner to maintain their proper positions and orientation so that, when they are fired, the pyrotechnic effects described in the plan submitted by the permittee are produced. Pyrotechnic devices shall be mounted so that no fallout from the device endangers human lives, results in personal injury, or damages property.

6.2.6 Mortars and flash pots shall be constructed so that they do not fragment when the pyrotechnic

material is fired and so that their shapes are not distorted after use. Distorted mortars and flash pots shall not be used.

6.2.7 Before firing the pyrotechnic device, the pyrotechnic operator or designated performance security staff shall prevent unauthorized entry into the area where the special effects are to occur.

6.2.8 Rotating pyrotechnic devices, such as wheels and saxons, shall be mounted securely so their rotation does not cause the holder to fail.

6.2.9 Where rockets are launched before a proximate audience, performers, or support personnel, the rockets shall be attached securely to a guide wire or cable with both ends securely attached and placed on an impact-resistant surface located at the terminal end of the guide. This guide wire or cable shall be of sufficient strength and flame resistance to withstand the exhaust from the rocket. An effective arrangement to stop the rocket shall be provided.

6.2.10 Flares shall be placed so that any debris falls into a safe, flame-resistant area.

6.2.11 Comets and mines shall be fired so that the trajectory of the pyrotechnic material is not carried over the audience.

6.2.12 Waterfalls shall be placed for firing that no flammable materials are within their fallout zone.

6.2.13 Pyrotechnic devices and materials used indoors shall be specifically manufacturer and marked for indoor use by the manufacturer.

6.2.14 Airbursts shall be permitted to be fired above the assembled audience, subject to the following conditions:

- (1) The airburst shall be suspended by a minimum 30-gauge metal wire that is attached securely to a secure support acceptable to the authority having jurisdiction.
- (2) The airburst shall occur at a minimum height of three times the diameter of the effect.
- (3) Where the effect is demonstrated, there shall be no burning or glowing particles below the 15-ft (4.6) level above the floor.

6.3.5 Pyrotechnic devices shall be fired only when the area where the effect is in clear view of the pyrotechnic operator or an assistant who is in direct communication with the operator. This communication shall be permitted to be accomplished with signal lights or other verbal means of communication.

6.3.7 Because of their potential hazard, concussion mortars shall be placed in a secured location that prevents the audience and support personnel from gaining access to the secured location. The concussion mortars shall be secured by placing them under the stage or by placing them behind barricades made of road cases.

6.3.8 While the authority having jurisdiction has the authority to stop the discharge of pyrotechnics, the ultimate responsibility for firing shall be that of the pyrotechnic operator.

6.4.1 Each pyrotechnic device fired during a performance shall be separated from the audience by at least 15 ft (4.6 m) but not less than twice the fallout radius of the device.

6.4.2 Concussion mortars shall be separated from the audience by a minimum of 25 ft (7.6 m).

6.4.3 There shall be no glowing or flaming particles within 10 ft (3 m) of the audience.

West Valley City Insurance Requirements

1. Required Coverages.

A. Workers' Compensation: In compliance with the workers' compensation laws of the State of Utah, and Employer's Liability limits of One Million Dollars (\$1,000,000) per injury.

B. Commercial General Liability: A minimum of Two Million Dollars (\$2,000,000) combined single limit per occurrence for bodily injury, personal injury, and property damage, and not less than Four Million Dollars (\$4,000,000) in the aggregate. The general aggregate limit shall apply separately to the specific project/location/lease (or to the activities to be performed pursuant to the Agreement), or the general aggregate limit shall be two (2) times the required occurrence limit. The coverage shall be in the nature of Broad Form Commercial General Liability coverage, and shall specifically include, at minimum, the following coverages:

- (1) Premises - Operations;
- (2) Product - Completed Operations Hazard;
- (3) Broad Form Contractual Insurance;
- (4) Independent Contractors;
- (5) Comprehensive Form;
- (6) Broad Form Property Damage; and
- (7) Personal Injury.

C. Automobile Liability: A minimum limit of liability per occurrence of Two Million Dollars (\$2,000,000) combined single limit for bodily injury, personal injury, and property damage. At minimum, the following coverages shall be included:

- (1) Owned automobiles;
- (2) Hired automobiles; and
- (3) Non-owned automobiles.

2. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions shall be declared to and approved by the City. At the option of the City, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its employees, officers, officials, agents, volunteers, and assigns, or the Applicant shall procure a bond, in a form acceptable to the City, guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

3. Other Insurance Provisions. The policies shall contain, or shall be endorsed to contain, the following provisions:

A. Commercial General Liability and Automobile Liability Coverages:

- (1) All policies shall include the City, its employees, officers, officials, agents, volunteers, and assigns as additional insureds. Any reference to the City, either in the provisions of this paragraph entitled "Insurance" or in any policies provided pursuant to this Agreement, shall include the City, its employees, officers, officials, agents, volunteers, and assigns.
- (2) The Applicant's coverage shall be primary insurance as respects the City, its employees, officers, officials, agents, volunteers, and assigns. Any insurance or self-insurance maintained by the City, its employees, officers, officials, agents, volunteers, and assigns shall be in excess of the Applicant's insurance, and shall not contribute to or with it.
- (3) Any failure to comply with reporting provisions of the policy shall not effect coverage provided to the City, its employees, officers, officials, agents, volunteers, and assigns.

- B. Coverage shall state that the Applicant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- C. Underwriters shall have no right of recovery or subrogation against the City, it being the intent of the parties that the insurance policy so affected shall protect both parties and be primary coverage for any and all losses covered by the described insurance.
- D. The insurance companies issuing the policy or policies shall have no recourse against the City for payment of any premiums due or for any assessments under any form of any policy.

4. **Acceptability of Insurers.** Insurance is to be placed with insurers with an AM Best rating of no less than an A Carrier, with a rating of VII or higher.
5. **Verification of Coverage.** The Applicant shall furnish the City with certificates of insurance and original endorsements affecting required coverages. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The City expressly reserves the right to require complete, certified copies of all required insurance policies at any time.
6. **Continuity of Coverage.** Each insurance policy shall be endorsed to state that the coverage shall not be suspended, voided, canceled, or reduced in coverage or in limits, except after thirty (30) days' prior written notice by certified mail, return receipt requested, sent to:

Attn: Division of Risk Management
West Valley City
3600 Constitution Boulevard
West Valley City, Utah 84119

If any of the required policies are, or at any time become, unsatisfactory to the City as to form or substance, or if a company issuing any such policy is, or at any time becomes, unsatisfactory to the City, the Applicant shall promptly obtain a new policy, submit the same to the City for

approval, and thereafter submit verification of coverage as required by the City. Upon failure to furnish, deliver, and maintain such insurance as provided herein, the City may declare the Applicant to be in default, and may pursue any and all remedies the City may have at law or in equity, including immediately suspending, discontinuing, or terminating the application or any approvals given to the Applicant by the City.

7. **Subcontractors.** The Applicant shall include all subcontractors as additional insureds under its policies, or shall furnish separate certificates and endorsements for each concessionaire, licensee, independent contractor, or subcontractor. All coverages for concessionaire, licensee, independent contractor and subcontractors shall be subject to all of the requirements stated herein.
8. **Scope of Coverage.** The Applicant shall require any subcontractor, concessionaire, licensee, independent contractor, or other person using the leased premises or asset to obtain prior to, and maintain throughout such use, the same scope, limits, and terms of coverage running in favor of the City, as required of the Applicant in this document.

If you have questions about the fireworks permit, call the West Valley City Fire Department Fire Prevention Division at 801-963-3336.